

REMARKS

Claims 13-18 and 20-29 are currently pending in the application. Claim 19 is canceled with this response. Reconsideration of the application in light of the following remarks is respectfully requested.

I. ISSUE RAISED REGARDING WITHDRAWN CLAIMS 26-29

Claims 26-29 were identified in the Office Action, and it was stated that a complete reply must include cancellation of non-elected claims. Claims 26-29, however, are a species of generic claim 13 which is pending. Consequently, it is respectfully submitted that if claim 13 is held to be allowable, that claims 26-29 that depend therefrom would then also be allowable. Accordingly, maintaining claims 26-29 as withdrawn is believed to be appropriate, and removal of this objection is therefore respectfully requested.

II. OBJECTION TO THE DRAWINGS

The drawings were objected to since the claim term “push-pull oscillator circuit” was not shown therein. Claim 19 containing the term at issue has been canceled, thereby rendering this issue moot. Accordingly, withdrawal of the objection is respectfully requested.

III. REJECTION OF CLAIM 19 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

Claim 19 was rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. Claim 19 has been canceled with this response, thereby rendering the above issue moot. Accordingly, withdrawal of the rejection is respectfully requested.

IV. REJECTION OF CLAIMS 18-25 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 18-25 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and claim the subject matter. More particularly, claims 18-25 were rejected because the term “ion shower” therein allegedly had insufficient antecedent basis. Applicant respectfully disagrees. Claims 18-25 each depend directly or indirectly on claim 13 that clearly sets forth the term “ion shower.” Therefore use of the term “ion shower” in claims 18-25 has appropriate antecedent basis. Therefore claims 18-25 are believed to be definite, and withdrawal of the rejection is therefore respectfully requested.

V. REJECTION OF CLAIMS 13-25 UNDER 35 U.S.C. § 103(a)

Claims 13-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 2001/63981 (Weiler) in view of U.S. Patent 5,846,883 (Moslehi). Withdrawal of the rejection is requested for at the least the following reasons.

- i. The combination of Weiler and Moslehi is improper because a combination therefore will render Weiler unsatisfactory for its intended purpose.*

It is conceded that a combination of references is appropriate when a motivation exists to do so. Motivation for combining the teaching of multiple references can be found in the references themselves, in the nature of the problem to be solved, or in the general knowledge of those skilled in the art. MPEP § 2143.01 (*citing In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)). According to the MPEP, the requisite motivation to combine together two pieces of prior art does not exist ***if their combination would render the prior art unsatisfactory for its intended purpose.*** MPEP § 2143.01 (V) (*citing In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984)).

Claim 13 recites an ion shower system having a plasma source that comprises a plurality of conductor segments and ***a plurality of capacitors serially connected***

through the conductor segments. As conceded in the Office Action, Weiler does not teach this feature, however, the Office Action asserts that Moslehi does teach this feature and that it would have been obvious to arrive at the feature of claim 13 by combining together Weiler and Moslehi. (See, O.A., 3/12/07, p. 9). Applicant respectfully disagrees for at least the following reasons. (Note that reference to the teachings of Weiler reference U.S. Patent No. 6,936,144 that claims priority to the WO reference).

Weiler discloses in Figs. 1 and 2a-2j (and corresponding text) a plasma source having a plasma excitation electrode. As shown in Figs. 2a-2j, the excitation electrode (that corresponds to the claimed conductor segment of claim 13 according to the Office Action) may comprise a single element or multiple segments. (See, e.g., Figs. 2e-2j). ***In instances where the excitation electrode 3 consists of multiple segments, each segment or electrode is connected to its own separate matching network and its own separate high frequency generator.*** (See, e.g., Col. 4, lines 27-30). According to Weiler, connecting each electrode segment to its own separate power source (generator) is provided to generate different kinds of plasmas so as to control and adjust beam characteristics. (See, e.g., Col. 4, lines 30-33),

Therefore one of ordinary skill in the art would not be motivated to modify the multiple, isolated electrode segment configurations of Weiler by serially coupling such segments together *via* capacitors because doing so would contravene the intended purpose of Weiler, which was ***to separately drive each segment with its own power source to generate different plasmas and thus control and adjust beam characteristics.*** Therefore the requisite motivation to combine the cited art does not exist, and consequently the combination of Weiler and Moslehi is improper. Accordingly, withdrawal of the rejection is respectfully requested.

- ii. A combination of Weiler and Moslehi does not teach the invention because such a combination does not result in a series connection of capacitors and conductor segments residing within the chamber, as recited in claim 1.*

Claim 13 recites that the series arrangement of conductor segments and capacitors resides ***within the chamber***. Even if a combination of Weiler and Moslehi were proper, the combination does not teach the invention of claim 1 for at least the following reasons.

Moslehi disclose a series combination of conductor segments and capacitors that is ***external to the chamber***. (See, e.g., paragraph [0057], lines 15-21, and paragraph [0113], lines 6-9). Referring to Fig. 1 of Weiler, if one of ordinary skill in the art were to modify Weiler to add capacitor segments, the capacitors would most likely be coupled to the excitation electrodes 3 through the feedthroughs 9 near the matching network 2, and thus such capacitors would also be ***external to the outer chamber wall 7***. One supporting rationale for locating such capacitor segments ***external*** to the chamber is that the magnetic field coils 4 are also located ***external*** to the chamber 7 via the contoured mounting element 1, as illustrated in Fig. 1. Further, no teaching exists within Weiler that would motivate one of ordinary skill in the art to locate the capacitor segments within the chamber. Therefore a combination of the cited art does not result in the invention of claim 1. Accordingly, withdrawal of the rejection is respectfully requested.

- iii. The combination of Weiler and Moslehi does not teach an azimuthally symmetric arrangement of the conductor segments and capacitors, as recited in claim 20.*

Claim 20 depends upon claim 13, and further recites that the ***series arrangement*** of conductor segments ***and*** capacitors are arranged ***within*** the chamber in an azimuthally symmetric fashion. Initially, Moslehi does not teach the ***capacitors arranged azimuthally symmetric within the chamber*** as recited in the claimed

invention. While **conductor** segments 186, 190 and 194 in Fig. 2 of Moslehi are arranged azimuthally, ***the capacitors that couple such segments together are not arranged in the azimuthally symmetric fashion as claimed.*** Rather, such capacitors follow the direction of the jumper water channels 214, 218, 226 and 230 illustrated in Fig. 2, and which is NOT azimuthally symmetric. Weiler does not remedy the deficiencies of Moslehi. In Figs. 2e-2j, none of the multiple conductor segment configurations are arranged azimuthally, and therefore a combination of the cited references does not result in the invention of claim 20, and therefore claim 20 is further non-obvious over the cited art. Accordingly, for at least this additional reason, withdrawal of the rejection is respectfully requested.

iv. The combination of Weiler and Moslehi does not teach a plurality of multi-cusp magnets on side portions of the chamber, as recited in claim 23.

Claim 23 depends upon claim 13, and further recites that side portions of the chamber comprise a plurality of ***multi-cusp magnets*** operable to produce multi-cusp magnetic fields. The combination of the cited references does not teach this feature.

Contrary to the assertion within the Office Action (see O.A., p. 6), Weiler does not teach a plurality of multi-cusp magnets as claimed. Weiler does teach a magnetic field coil arrangement, as illustrated in Fig. 1, however, such coil arrangement does not produce multi-cusp fields as claimed. Rather, Weiler's coil arrangement is employed to increase the efficiency of power induction. (See, e.g., Col. 4, lines 61-65). Therefore claim 23 is non-obvious over the cited art for at least this additional reason. Accordingly, withdrawal of the rejection of claim 23 and depending claims 24-25 is respectfully requested.

VI. CONCLUSION

For at least the above reasons, the claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, EATNP146US.

Respectfully submitted,
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